

Patent Claims

1. A method for initializing programmable systems, in which the information required for initializing registers and internal and/or external modules is contained in an external memory and is read, particularly for application in programmable system-on-chip ASIC elements, characterized in that after turn-on or another event which triggers a fresh start, controlled by a program in an instruction memory (9), initialization information is transferred from an external or internal non-volatile storage medium (14) to an internal memory (10), in that the initialization information contains initialization data and/or at least one initialization program, in that the registers (5) and modules are initialized under the control of one or more processor elements (8) or other intelligent building blocks arranged in the system, which, for their part, are controlled by the initialization program.

2. The method as claimed in claim 1, characterized in that an integrity check on the initialization information is performed after the transfer, and in that a program branch is carried out under the control of the result of the integrity check.

3. The method as claimed in claim 1, characterized in that, upon identification of an incorrect or missing internal or external storage medium, an error routine is executed which carries out the initialization with standard values or fully or partially restores the content of the internal or external storage medium (14).

4. The method as claimed in claim 1, characterized in that the initialization data are read

as standard values from the storage medium (14), are altered by the processor element (8), and the altered initialization data are used for initialization.

5     5.     The method as claimed in claim 1,  
characterized in that the initialization program for  
the processor element (8) calculates initialization  
data and uses them for initialization.

10     6.     The method as claimed in claim 5,  
characterized in that state data for peripheral  
components (7) and/or internal components are taken as  
a basis for calculating the initialization data for  
said components and the data for the internal  
15     components.

7.     The method as claimed in claim 1,  
characterized in that the processor element (8) changes  
to a power-saving mode following initialization.  
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8.     The method as claimed in claim 1,  
characterized in that the initialization of further  
processor elements (8) is started and monitored.

25     9.     The method as claimed in claim 1,  
characterized in that adaptation to various storage  
media is performed.

10.    The method as claimed in claim 1,  
30     characterized in that the initialization program  
reloads further data and/or program code from a storage  
medium (14).